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TOWNSEND AND TOWNSEND AND CREW, LLP
TWO EMBARCADERO CENTER
EIGHTH FLOOR
SAN FRANCISCO, CA 94111-3834

EXAMINER	
WOODS, ERIC V	
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Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 10/714,254	Applicant(s) BITO ET AL.	
	Examiner Eric V. Woods	Art Unit 2672	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *11 August 2005*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-16,22 and 23* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-16,22 and 23* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Status of Claims

Claims 1-16 have been substantially amended.

Claims 17-21 have been canceled.

Claims 22-23 have been substantially amended.

Response to Arguments

Applicant's arguments, see Remarks pages 1-8, filed 8 August 2005, with respect to the rejection(s) of claim(s) 1-21 under 35 U.S.C. 103(a) have been fully considered and are persuasive.

Therefore, in view of applicant's amendments, the rejections to claims 1-16 stand withdrawn, and the arguments are moot.

All rejections directed at claims 17-21 are withdrawn since those claims have been canceled.

However, upon further consideration, a new ground(s) of rejection is made in view of various new references as below.

The objection to claim 18 is withdrawn since the claim has been canceled.

All independent claims have been heavily amended, thus necessitating new grounds of rejection, including formal ones.

Claim Rejections - 35 USC § 101

35 U.S.C. 101 reads as follows:

> Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

Claim 12 is rejected under 35 U.S.C. 101 because it is directed to non-statutory subject matter. Specifically, claim 12 does not properly claim a computer program product. In order for such a program product to be statutory, it must be tangibly embodied on a computer-readable medium. This is well-established case law (see (In re Warmerdam, 33 F.3d at 1360, 31 USPQ2d at 1759, and MPEP 2106). Therefore, adding the following language to the preamble of claim 12 after the word 'data' can obviate this rejection: "tangibly embodied on a computer-readable medium"

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 1, 9, and 16 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Specifically, the claims do not recite -- as the specification requires -- that the claims are computer-implemented. Amending the first line of each of the above-mentioned claims and inserting the words 'computer-implemented 'between' A and method can obviate this rejection.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

The factual inquiries set forth in *Graham* **v.** *John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

Claims 1-2 are rejected under 35 U.S.C. 103(a) as being unpatentable over Barg et al (US 6,707,454 B1) in view of Yamamoto (US PGPub 2001/0043236 A1).

Firstly, some notes: the recitation 'process data' is essentially meaningless, since it is so broad. Applicant does not set forth a specific definition, and examiner is required to give claim language its broadest reasonable interpretation as per MPEP 2111 (In re Morris, In re Hyatt, and the like).

As to claims 1, 12, and 14,

A method for analyzing process data, said method comprising: (Preamble not given patentable weight since it is only a recitation of intended use, and the process steps can stand on their own, as per Kropa v. Robie, Pitney Bowes, Inc. v. Hewlett-Packard Co., 182 F.3d 1298, 1305, 51 USPQ2d 1151, 1165 (Fed. Cir. 1999), and the like)

-Displaying said process data in a first image, said first image representing first and second dimensions associated with said process data; (Barg, elements 112 in Figure 2, the 'dimensional views' on the left of Figures 2-4, Figures 8-10 and the like, as

explained in 6:60-7:15, with the axes representing some aspect of the process data. Note that these are interactive.)(Yamamoto Figure 6, multiple two-dimensional views (top, front, and side (51, 52, 53)) are shown as being present on the monitor on the left [0057-0059])

-Displaying said process data in a second image, said second image representing at least a third dimension associated with said process data; (Barg Figure 2, where 1:50-2:55, where it is established that the invention is directed to solving the problem of visualizing multi-dimensional data sets. Clearly, Barg teaches how analyzing such data from multiple perspectives across several views can be advantageous (3:20-38). The side graphs displayed as items 112 in Figure 2 are different dimensional views (e.g. two-dimensional) views of the three or higher order dimensional data sets – see also Figure 3, Figures 8-10, and 7:15-55, where clearly there are multiple of what Barg terms 'dimensional views,' and the user can control which are shown. Bard terms the larger, multi-dimensional view the 'multiscape,' which is numbered as element 122 – 7:35-55, and the user can clearly navigate through this larger portion of the image, with the user being able to arbitrarily rotate, scale, pan, remove elements, sort, and perform various other activities on the larger data set – essentially, navigating through it to any region of interest (ROI)(8:15-60). The user can access all these capabilities through menus at any time (14:1-10). Various types of sorting and how the user can accomplish this are taught in (17:1-30), specifically with respect to the bar graphs as in Figures 8-10 and 17:10-20 and 17:65-18:13)(Yamamoto

has three-dimensional element 54a in Figure 6, and also element 60 consisting of sub-elements 61 and 62 [0058-0062])

-Receiving a region of interest (ROI) selected from said first image; (Barg clearly teaches allowing the user to select a desired portion of the second or multiscape image, as in allowing the user to view any desired portion or to select a location by moving towards it, as explained above. Further, Barg allows the user to designate a specific region of the multiscape – as in 8:47-55, to select only the desired portion of the three-dimensional view.)(Yamamoto, the user selects a two-dimensional view containing an object, for example the Abstract, [0008], [0049] particularly, where the user specifies the corresponding graphic element on a two-dimensional projection of the object, where the user-selected element is then highlighted and brought out in the three-dimensional version [0055, 0059-0061])

-Calculating a first subset of said process data, said first subset comprising values present in said selected ROI; (Barg clearly teaches, as noted above, that Barg teaches how analyzing such data from multiple perspectives across several views can be advantageous (3:20-38). The side graphs displayed as items 112 in Figure 2 are different dimensional views (e.g. two-dimensional) views of the three or higher order dimensional data sets – see also Figure 3, Figures 8-10, and 7:15-55, where clearly there are multiple of what Barg terms 'dimensional views,' and the user can control which are shown, specifically in 6:50-7:15, where the use can select desired dimensional views and the desired items within one window. Specifically, Barg allows the user to exclude any desired data columns or sets from the views (as in 16:50-

17:20), and the user can also select the ROI using the select mode 8:47-55—select a portion of the three-dimensional multiscape view.)(Yamamoto clearly allows the user to select a desired view of the object, which will prima facie exclude certain elements from view, which clearly would constitute a subset, see Figures 5-7 and the discussion above and in [0055-0065])

-Redrawing said second image based upon said first subset of said process data; (Barg clearly teaches that the user can alter the dimensional views 112 in Figure 2 to have various desired elements, and the number of dimensional views present. Clearly, when exclusion and selection are exercised as options, the side dimensional views are quickly redrawn, as in 16:50-17:15, where redrawing is inherent when the data set to be shown changes (e.g. portions are selected and/or excluded), and that clearly involves redrawing the second image.)(Furthermore, this is a trivially obvious variant and well known in the art. Obviously, if the user selects a fixed point in one window, e.g. a time point, the user would not want the window that they clicked in to change; rather the use wants to see the data visualization in the other dimensions at that point, e.g. if the user selects a total sales point on the summary window 120, they want to see changes in the specific sales for the time in the main window on the left.)(Yamamoto – the three-dimensional image 60 or 54a in Figures 5 and 6 is redrawn with the newly selected element emphasized from whatever viewpoint was selected [0060-0063])

-Receiving a second ROI selected from said second image; ((Barg clearly teaches allowing the user to select a desired portion of the second or multiscape image, as in allowing the user to view any desired portion or to select a location by moving

towards it, as explained above. Further, Barg allows the user to designate a specific region of the multiscape – as in 8:47-55, to select only the desired portion of the three-dimensional view.))(Yamamoto states that the user can select objects on the three-dimensional version of the object, [0045-0048, 0055, 0060, 0070-0071].)

-Calculating a second subset of said process data said second subset comprising values present in said second ROI; ((Barg clearly teaches, as noted above, that Barg teaches how analyzing such data from multiple perspectives across several views can be advantageous (3:20-38). The side graphs displayed as items 112 in Figure 2 are different dimensional views (e.g. two-dimensional) views of the three or higher order dimensional data sets – see also Figure 3, Figures 8-10, and 7:15-55, where clearly there are multiple of what Barg terms 'dimensional views,' and the user can control which are shown, specifically in 6:50-7:15, where the use can select desired dimensional views and the desired items within one window. Specifically, Barg allows the user to exclude any desired data columns or sets from the views (as in 16:50-17:20), and the user can also select the ROI using the select mode 8:47-55—select a portion of the three-dimensional multiscape view.))(Yamamoto clearly teaches that the drawing is redefined when the user selects a certain portion, and that the views are update – [0055, 0060-0063], and as discussed above – the same systems are used for selecting a region on the three-dimensional view as on the two-dimensional views)

-Redrawing said first image based upon said second subset of said process data. (Barg clearly teaches that the user can alter the dimensional views 112 in Figure 2 to have various desired elements, and the number of dimensional views present. Clearly,

when exclusion and selection are exercised as options, the side dimensional views are quickly redrawn, as in 16:50-17:15, where redrawing is inherent when the data set to be shown changes (e.g. portions are selected and/or excluded). Clearly, this constitutes redrawing the first image based upon the process data.)(Yamamoto – the object is withdrawn with an element highlighted, and the like [0055-0065])

As noted above, Barg is a system for visualizing multi-dimensional business process data, for example, as shown in (1:60-2:25), and is intended for use with any kind of multi-dimensional (process) data, as in 3:15-35, 34:1-64, and the like. Barg clearly teaches the existence of multiple two-dimensional windows; where the user can select a region of interest using various methods, such as selection, exclusion, zooming, and the like. The two-dimensional data sets are interactive, but Barg does not expressly state that by manipulating elements on the two-dimensional graphs (first window or first image), the second window will be redrawn.

Yamamoto is a CAD system directed to visualizing three-dimensional data sets generally – similar systems are well known in the art for various purposes, such as medical imaging (see the provided Hong paper, where in Figure 8 a navigation interface with three various two-dimensional views are provided around a single point selected on three-dimensional interface in the center of the screen), for analysis of seismic data, MRI, ultrasound, wind effects on a wing, and many other phenomena (see Lauer et al – US 6262740 ,1:14-67), and the like. In any case, such systems are well known in the art for visualization of multi-dimensional (e.g. 3+) data. Further, the use of such

systems to visualize process data is also well known (see for example US PGPub 2003/0071814 to Jou; US 6,243,615 B1 to Neway; US PGPub 2001/0054034 to Arning; and the like).

Yamamoto is analogous art, as the interface disclosed therein could be used to visualize multi-dimensional data such as medical imaging and the like. Yamamoto is also directed to a similar problem-solving area, specifically visualizing multi-dimensional data using a 3D visualization and multiple two-dimensional views of such data. Yamamoto expressly teaches allowing the user to select a portion of the three-dimensional model from various two-dimensional views (first image) and then updating the second image with the new view.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the system of Barg to incorporate the ability to choose regions of interest from the first image (e.g. two-dimensional views) of the larger multi-dimensional data set for all of the above reasons as per Yamamoto, as well as the other features, and further in [0006-0010] the ability of the designer to choose a specific desired view and component is greatly enhanced [0014, 0067, 0005], which would allow the user of the system of Barg to perform analysis more effectively by viewing the multi-dimensional data from better angles.

Claims 12 and 14 are similar in scope to claim 1; they merely recite an apparatus that performs the method of claim 1, wherein the means specified by the apparatus can clearly be executed on a computer, as set forth in Barg, and the elements consisting of the 'means' language are found, upon comparison, to be functionally equivalent to those

of Sang and to be substantially similar in form, thusly meeting the 'means' limitations recited therein. Clearly Barg utilizes a computer system as set forth in claim 12, so the method can be implemented using computer code as recited therein. The rejection to claim 1 is herein incorporated by reference.

As to claim 2, Barg clearly teaches that profit, sales, quantities, and the like can be displayed; note for example in Figure 2, Figure 10, 1:60-2:25, and the like.

As to claim 3, three-dimensional graphs or multiscape views as taught by Barg inherently have at least a two-dimensional map (e.g. the base plane as shown in Figures 2 and 10 for example) and multiple one-dimensional graphs as stacked across the screen to form the three-dimensional graph. Examiner's interpretation of the "at least one of ... and ..." language is taken from SuperGuide Corp. v. DirecTV Enterprises Inc., 69 USPQ2d 1865 (CA FC 2004), where this construction requires the presence of at least one instance of all items listed therein. Therefore, as explained above, Barg teaches all the limitations of this particular claim. Finally, Yamamoto could be interpreted as not necessarily requiring the showing of a three-dimensional view of the object and merely showing side, top, and front views of an object, where clearly these represent multiple views as listed above.

As to claim 4, Barg clearly teaches that the techniques utilized therein can be used to visualize data having dimensional orders higher than three, and that such dimensional views (as in 112 in Figure 2) can consist of several of those data sets, as discussed above (1:60-2:45, 3:20-32, 5:43-48, and the like), with multiple dimensional views of the larger overall space.

As to claim 5, Barg teaches in 9:1-16 the use of a 2D scatter plot.

As to claim 6, Barg teaches the use of bar graphs, as in elements 112 in Figure 2, the side views in Figure 10, and the like.

As to claim 7, Barg clearly teaches multiple dimensional views of the three-dimensional data sets, where the user can clearly configure which windows are shown such that the user can choose what correlations to display. Further, Yamamoto clearly teaches the use of three 2D views of a three-dimensional object (data set), where these clearly show the correlation between the two dimensions as required in this particular claim.

As to claim 8, clearly Barg shows such in Figures 2, 10, and the like, and Yamamoto shows those views in Figures 4, 5, and as noted above.

As to claim 13, claim 13 is the same as in scope as claims 1, 12, and 14 and thusly subject to the same rejection. Barg teaches in Fig. 29 the general-purpose computer, with additional limitations of a processor (720); memory (730); a persistent storage (29:50-63 hard drive, removable storage drive, or the like, as part of memory); and a bus (I/O controller bus 790, 29:5-25).

As to claim 16, this is similar to claim 1; the rejection is incorporated by reference. The additional limitation that such process data is abstracted into at least three dimensions is covered in 1:50-2:25, for example, 3:20-25, and elsewhere, where the data is clearly at least three-dimensional.

The first and second visualization devices are nothing more than separate graphs, windows, or boxes on a computer monitor according to the specification of the

instant application, and Barg clearly shows such items in Figures 2, 10, and the like, where clearly these allow visualization of the data in at least one of three dimensions. Clearly, showing the multiscape view or the dimensional views indicates correlations between at least two of said three dimensions, and the user can arbitrarily configure the dimensional views, as discussed in the rejection to claim 1. Yamamoto also shows the correlation between at least two dimensions. Clearly, the z axis or profit or units sold or whatever measure is used is a quantity measure by at least one of said three dimensions.

The rest of the claim is like unto claim 1, and the same rejection is used thereupon.

Claims 9-11 are rejected under 35 U.S.C. 103(a) as unpatentable over Barg in view of Yamamoto as applied to claim 1 above and further in view of Okerlund et al (US 6,690,371 B1).

Claims 9-11 are the same scope to claims 1-3 but claim that the data dimensions are "a patient dimension, a time dimension, and a procedure dimension" which is just an example of data types which Barg illustrates in different models (Figs. 2-3, 8-10, etc); therefore, they are rejected under the same logic, and the rejections to claims 1-3 are herein incorporated by reference. Further, as specified, above the definitions of these terms are very broad. The number of customers as shown in Figure 2B could easily constitute the "patient" dimension, where the time dimension is clearly shown in Fig. 5 (12:33-45, Barg) as "Month". Clearly, the third dimension – the procedure dimension –

could be sales, as clearly a sale is prima facie a type of procedure. The limitation of claim 2 would be incorporated into the first clause of claim 9, and claims 10 and 11 are merely claim 3 split in half, e.g. one of the two dimensional presentations comprising a map, and the other comprising a graph (wherein Barg teaches a graph in Fig. 2). Clearly, Figs. 2 and 10 teach a graph (claim 10) and Figs. 5, and 8-10 teaches a map (claim 11), thusly covering those recited limitation.

However, Barg and Yamamoto do not expressly teach the patient dimension. Clearly reference Okerlund has methods for optimizing data acquired from patients during medical image procedures, e.g. see Figs. 3-6. Clearly, it would be obvious to apply the system of Okerlund to Barg and Yamamoto such that individual slices of two-dimensional data over a n-dimensional volume would be easily visualized, and clearly the system of Okerlund would allow the system of Barg in view of Yamamoto to be applied to situations involving medical data and patients as implied by the claims of the instant application. Thusly, motivation for combination is provided, and also the rejection to claim 1 is herein incorporated by reference.

Claim 4 is rejected under 35 U.S.C. 103(a) as unpatentable over Barg and Yamamoto as applied to claim 3 above, and further in view of Sang.

Simply put, in case applicant wants to dispute the presence of a map, Sang is incorporated by reference to cover this limitation. It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine Barg and Yamamoto with Sang for several reasons – firstly, Sang is analogous art, secondly,

Sang provides certain details on allowing the user to set navigation paths through data sets, which would be a useful tool to add to the system of Barg (Sang 2:20-50), and the fact that Sang is only being used to show that it would be obvious and was well known in the art to have an application server with client workstations as well as the database server, which Barg and Yamamoto do not expressly teach, but Barg does teach clients that perform such steps, as in 34:10-20 and the like.

Claim 10 is rejected under 35 U.S.C. 103(a) as unpatentable over Barg, Yamamoto, and Okerlund as applied to claim 9 above, and further in view of Sang.

Simply put, in case applicant wants to dispute the presence of a map, Sang is incorporated by reference to cover this limitation. It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine Barg and Yamamoto with Sang for several reasons – firstly, Sang is analogous art, secondly, Sang provides certain details on allowing the user to set navigation paths through data sets, which would be a useful tool to add to the system of Barg (Sang 2:20-50), and the fact that Sang is only being used to show that it would be obvious and was well known in the art to have an application server with client workstations as well as the database server, which Barg and Yamamoto do not expressly teach, but Barg does teach clients that perform such steps, as in 34:10-20 and the like.

Claim 15 is rejected under 35 U.S.C. 103(a) as unpatentable over Barg in view of Yamamoto as applied to claim 1, and further in view of Sang.

Claim 15 is the same in scope as claims 1 and 12-14 and is thusly subject to the same rejection, which is incorporated by reference. The additional limitations of a database server are met in Barg Fig. 29 – multi-dimensional data source 900 can be a data cube (29:19-25), which is connected over the Internet or the like (29:25-40), which clearly inherently requires a server.

The additional limitations of a database server are met in Sang Fig. 4 – database server 450 with data source 480 which is a database according to Sang (5:45-65 for example). The application server is also server 450, in that the server abstracts the data into three dimensions (435 followed by data miner 490 for abstracting) and forwards the abstracted data file 495 to the client, where it is received. Clearly the database server, application server, and application client (data visualization tool 420 on client workstation 400) are in communication over link 401. Obviously the client provides a plurality of images (wherein by definition a plurality is more than one, inclusive of two) as set forth in the rejection to claims 1 and 12-14 that is herein incorporated by reference.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine Barg and Yamamoto with Sang for several reasons – firstly, Sang is analogous art, secondly, Sang provides certain details on allowing the user to set navigation paths through data sets, which would be a useful tool to add to the system of Barg (Sang 2:20-50), and the fact that Sang is only being used to show that it would be obvious and was well known in the art to have an application server with client workstations as well as the database server, which Barg and Yamamoto do not

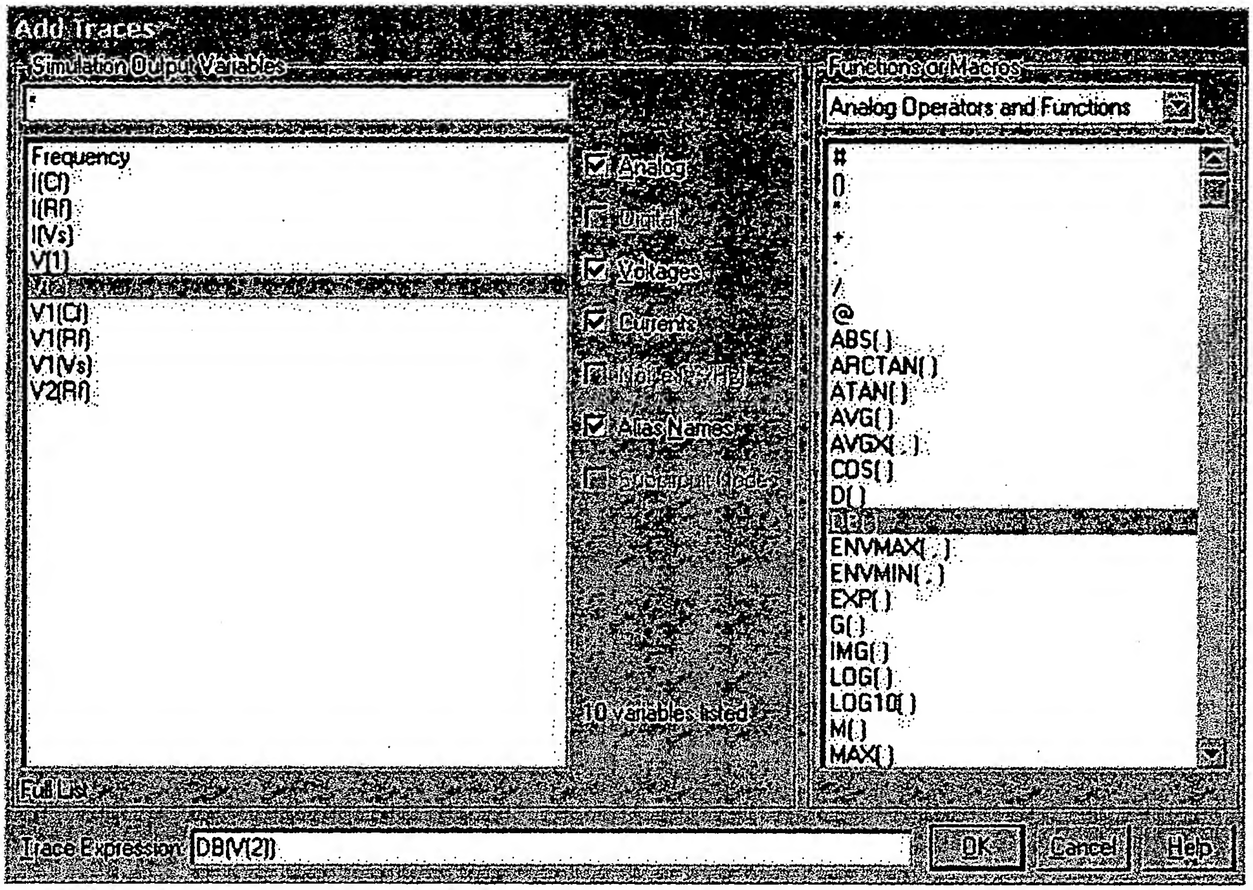
expressly teach, but Barg does teach clients that perform such steps, as in 34:10-20 and the like.

Claim 22 is rejected as unpatentable over Barg and Yamamoto as applied to claim 16, and further in Rockland.

The only additional limitation is:

Said function comprising at least one of an addition, a subtraction, a multiplication, an exponentiation, a division, a root, a Boolean operator, a modulo, and an absolute value.

Clearly, Sang would imply that such operators could be used, but does not expressly teach that limitation. Rockland teaches the use of a software program called PSpice, which is a circuit simulation program. However, more importantly, this program has a back end for graphical visualization called Probe, which can take in any properly formatted data sets and display them in any combination with various operators (see for example pages 2 and 3, particularly Fig. 1, a zoomed in version of which is herein shown below).



This graphical front-end allowed the user to select any combination of output variables and apply to them any combination of the listed Operators and Functions to generate traces (as shown in Rockland Figs. 2, 4, et cetera), where listed operators are addition, subtraction, multiplication, division, absolute value (ABS), exponential (EXP), and various others that are not shown below.

As such, it would have been obvious to one of ordinary skill at the time the invention was made to apply such a combination of operators to any data subset for visualization purposes so that users could obtain data about the relationships between various variables by applying obvious transforms to real data. Although Probe takes in data files that normally contain circuit data, it can be used to visualize any appropriately

formatted data. Thusly, it would have been obvious to combine Rockland and Barg/Yamamoto for the reasons set forth above.

Obviously, a visualization system of this type would allow select, join, and similar operations, where these are well known in the art and obvious, and clearly subsets could be combined in this manner and the results sent to a new window, as clearly Barg redraws the windows and creates new dimensional views when the user changes the configuration as discussed above.

Claim 23 is rejected under 35 U.S.C. 103(a) as unpatentable over Barg in view of Yamamoto as applied to claim 16 above, and further in view of Sang.

Barg does not expressly teach the color variation limitation.

Obviously, a visualization system of this type would allow select, join, and similar operations, where these are well known in the art and obvious, and clearly subsets could be combined in this manner and the results sent to a new window, as clearly Barg redraws the windows and creates new dimensional views when the user changes the configuration as discussed above.

The additional limitation is:

Said third subset of said process data displayed using at least one of a plurality of different colors, a plurality of different intensities of a color, a plurality of different intensities of a plurality of different colors.

Sang teaches all the limitations of this claim. Clearly, in 5:1-15 the data of Sang can be varied as a function of color across the window, and that regions have different

colors, and that in Fig. 1 the main regions have different colors (7:25-30), and that different categories to axis have different colors (7:40-50), and finally a color legend is presented in 7:60-8:2, such that the user can distinguish the different colors. Clearly this comprises a 'plurality of colors' thus meeting the recited limitation of the claim. Motivation is incorporated by reference from claim 16.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine Barg and Yamamoto with Sang for several reasons – firstly, Sang is analogous art, secondly, Sang provides certain details on allowing the user to set navigation paths through data sets, which would be a useful tool to add to the system of Barg (Sang 2:20-50), and the fact that Sang is only being used to show that it would be obvious and was well known in the art to have an application server with client workstations as well as the database server, which Barg and Yamamoto do not expressly teach, but Barg does teach clients that perform such steps, as in 34:10-20 and the like.

Claims 1 and 12-16 are rejected as obvious over Sang in view of Yamamoto. The rejections used in the last Office Action are incorporated by reference. The only difference is the addition of new material from Yamamoto to deal with the newly added limitations. The cited sections of Yamamoto in the rejection of claim 1 above are incorporated by reference, and the motivation for combining Yamamoto with Sang is the same as that for combining Yamamoto with Barg as above.

Conclusion

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Eric V. Woods whose telephone number is 571-272-7775. The examiner can normally be reached on M-F 7:30-4:30 alternate Fridays off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Michael Razavi can be reached on 571-272-7664. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Eric Woods

Jeffrey A. Brier
PRIMARY EXAMINER

October 20, 2005